

**IMIA Operator Algebra Seminar**  
University of Wollongong

Title: Homology of Higher Rank Graphs - Part 3

Speaker: Alex Kumjian (University of Nevada)

Time and Dates: 3:30pm, Thursday September 1, 2011

Location: Room 1.G03

Abstract: We introduce a homology and a cohomology theory for higher rank graphs. We will begin by reviewing the definition and basic properties of a  $k$ -graph  $\Lambda$ . Our definition of the homology of  $\Lambda$  is modeled on Massey's formulation of the cubical singular homology of a topological space and is equivalent to the homology of a cubical set as defined by Grandis.

If there is time, we will discuss  $C^*(\Lambda, \varphi)$ , the twisted  $k$ -graph  $C^*$ -algebra, where  $\varphi$  is a two-cocycle taking values in  $\mathbb{T}$ .

This talk is based on joint work with David Pask and Aidan Sims.